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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,265	07/17/2003	Masaaki Katoh	2045520299400	9724

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EXAMINER

HAN, JASON

ART UNIT PAPER NUMBER

2875

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/621,265	<b>Applicant(s)</b> KATOH ET AL.	
	<b>Examiner</b> Jason M Han	<b>Art Unit</b> 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/17/2003</u> . | 6) <input checked="" type="checkbox"/> Other: <u>Foreign References</u> .               |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see Pages 9-12, filed December 10, 2004, with respect to the rejection of Claim 1 under 35 U.S.C. 103(a) has been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Katsura Yoshinori (Japanese Publication 05-121785), which has been based upon the broadest interpretation given to the structural limitations [MPEP 2111].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 8-11, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsura Yoshinori (Japanese Publication 05-121785).
3. With regards to Claim 1, Katsura discloses a light emitting diode lamp including at least one light emitting diode chip [Figures 1-3: (13)]; and a convex lens [Figures 1-3: (16)] through which rays of light emitted from the light emitting diode chip passes, wherein the convex lens has two different curved surfaces on both sides of a plane

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orthogonal to and extending off a center of a light emitting surface of the light emitting diode chip [Figures 1&3: intersection of (L) and (16)].

Katsura does not specifically teach one of the curved surfaces of the convex lens refracting outgoing rays of light from the light emitting diode chip more than the other of the curved surfaces of the convex lens. However, it is obvious that due to the very nature of the two different curved surfaces that one of the curved surfaces would refract rays of light more than the other. Katsura corroborates this by teaching that the brightest direction of the light emitting diode occurs at the optical axis (L) of the convex lens [Paragraph 11 of the Detailed Description].

4. With regards to Claim 2, Katsura discloses the claimed invention as cited above. In addition, Katsura teaches the plane extending off a center of the light emitting surface being orthogonal the extension of the light emitting surface of the light emitting diode chip so that it does not actually intersect with said chip [Figures 1&3].

5. With regards to Claim 3, Kasura discloses the claimed invention as cited above. In addition, Katsura teaches a plurality of light emitting diode chips arrayed in one direction [Figures 4-6: (13a, 13b)].

6. With regards to Claim 8, Katsura discloses the claimed invention as cited above. In addition, Katsura teaches the light emitting diode lamp being used within a display unit [Figure 3].

7. With regards to Claim 9, Katsura discloses the claimed invention as cited above. In addition, Katsura teaches at least one of the curved surfaces of the convex lens further comprising a plurality of curved surfaces different in shape [Figure 1]. It would

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have also been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated a plurality of curved surfaces within the lens, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

8. With regards to Claim 10, Katsura discloses the claimed invention as cited above. In addition, Katsura teaches the plurality of curved surfaces including a curved surface on one side [Figure 1: left most face of the lens (16)] and a curved surface on the other side [Figure 1: from the top of the left face to the point (L) of the lens (16)] such that the intersection of the two sides defines a plane that is orthogonal to an extension of the light emitting surface of the light emitting diode chip and does not intersect with said chip.

9. With regards to Claim 11, Katsura discloses the claimed invention as cited above. In addition, Katsura teaches a plurality of light emitting diode chips arrayed in one direction [Figures 4-6: (13a, 13b)].

10. With regards to Claim 15, Katsura discloses the claimed invention as cited above. In addition, Katsura teaches the light emitting diode lamp being used within a display unit [Figure 3].

11. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsura Yoshinori (Japanese Publication 05-121785) as applied to Claim 1 above, and further in view of Yamada Motokazu (Japanese Publication 11-154766).

With regards to Claim 4, Katsura discloses the claimed invention as cited above. In addition, Katsura teaches the convex lens being molded of a translucent resin

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[Paragraphs 10-11 of the Detailed Description], but does not specifically teach the resin having a light absorption band in wavelengths other than a peak wavelength of rays of light emitted by the chip.

Yamada teaches an LED lamp wherein a convex lens is made up of resin containing various additives, such as a coloring agent, optical stabilization material, a dispersing agent, and a fluorescent substance. The duty of the filter is to cut the wavelength besides a request [Paragraphs 22-23 of the Detailed Description].

It would have been obvious to modify the LED lamp of Katsura to incorporate the convex lens with color adjusting means of Yamada in order to provide a user with a desired optical effect, in this case, a different color that may enhance the aesthetic appeal, as well as to better differentiate the illumination in outside conditions (e.g. sunlight).

12. With regards to Claims 5, Katsura in view of Yamada discloses the claimed invention as cited above. In addition, Yamada teaches light emitting diodes within a resin case having a black background so as to accentuate the light emitted from the LEDs and improve contrast [Paragraph 51 of the Detailed Description]. Such a configuration is commonly known and would have been obvious to one having ordinary skill in the art at the time the invention was made, since it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. In this case, providing the lead frame with a black surface suits the purpose of improved contrast.

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13. With regards to Claim 6, Katsura in view of Yamada discloses the claimed invention as cited above. In addition, both Katsura [Figure 7] and Yamada [Figure 5] teach the light emitting diode chip within a reflection cup. It has also been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. In this case, providing the lead frame with a black surface suits the purpose of improved contrast.

14. With regards to Claim 7, Katsura in view of Yamada discloses the claimed invention as cited above except for the lead frames be treated with a black resin. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporate a black-colored resin onto the lead frames, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. In this case, a black resin would be suitable for its insulating characteristic, as well as improving contrast.

15. Claims 12-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsura Yoshinori (Japanese Publication 05-121785) as applied to Claim 1 above, and further in view of Yamada Motokazu (Japanese Publication 11-154766).

With regards to Claim 12, Katsura discloses the claimed invention as cited above. In addition, Katsura teaches the convex lens being molded of a translucent resin [Paragraphs 10-11 of the Detailed Description], but does not specifically teach the

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resin having a light absorption band in wavelengths other than a peak wavelength of rays of light emitted by the chip.

Yamada teaches an LED lamp wherein a convex lens is made up of resin containing various additives, such as a coloring agent, optical stabilization material, a dispersing agent, and a fluorescent substance. The duty of the filter is to cut the wavelength besides a request [Paragraphs 22-23 of the Detailed Description].

It would have been obvious to modify the LED lamp of Katsura to incorporate the convex lens with color adjusting means of Yamada in order to provide a user with a desired optical effect, in this case, a different color that may enhance the aesthetic appeal, as well as to better differentiate the illumination in outside conditions (e.g. sunlight).

16. With regards to Claim 13, Katsura in view of Yamada discloses the claimed invention as cited above. In addition, both Katsura [Figure 7] and Yamada [Figure 5] teach the light emitting diode chip within a reflection cup. It has also been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. In this case, providing the lead frame with a black surface suits the purpose of improved contrast.

17. With regard to Claims 14 and 16, Katsura in view of Yamada discloses the claimed invention as cited above except for the lead frames be treated with a black resin. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporate a black-colored resin onto the lead frames,



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since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. In this case, a black resin would be suitable for its insulating characteristic, as well as improving contrast.

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art pertinent to the current application, but are not considered exhaustive:

US Patent 4774434 to Bennion;

US Patent 5013144 to Silvergate et al;

US Patent 5289082 to Komoto;

US Patent 5298768 to Okazaki et al;

US Patent 5924788 to Parkyn, Jr.;

US Patent 6585874 to Komoto et al;

US Patent 6614179 to Shimizu et al;

JP60070783A to Mihashi et al;

JP62055973A to Katagiri et al;

JP05275752A to Ishinaga;

JP08162673 to Murata.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (1/10/2005)



**JOHN ANTHONY WARD**  
PRIMARY EXAMINER